

FORMULA 4.261.12

$$\int_0^1 \frac{x^n \ln^2 x}{1-x} dx = 2 \sum_{k=n}^{\infty} \frac{1}{(k+1)^3} = 2 \left( \zeta(3) - \sum_{k=1}^n \frac{1}{k^3} \right)$$